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REMARKS/ARGUMENTS

This paper is in response to the Office Action mailed on July 15, 2003 wherein Claims 1-24 was rejected. Claims 1-24 remain pending.

Claim Rejections Under 35 U.S.C § 102 and 103

On page 2 of the Office Action Claims 1-24 were rejected under 35 U.S.C § 102(b) as being anticipated by Jansen et al. The Examiner stated that Jansen discloses generating d-axis and q-axis negative stationary current signals within item 97. Applicants respectfully disagree with the Examiner. As shown in Figures 6 and 29, the stator winding phase currents i_{asi}^s and i_{bsi}^s are vector rotated using heterodyne process with interested saliency harmonic frequency using multipliers 103 and 104. Jansen then uses an LPF to filter the unwanted harmonic components. The filtered signal then supplied to the speed and position observer to track the rotor position.

In the present claimed invention stator winding phase currents ia and ib are passed to anti-alias hardware filter. The three phase currents are transformed into two-phase stationary dq format. The stationary currents are then processed through the second order LPF to filter out the fundamental component. The high frequency stator current comprises of the two components: position sequence component and the negative sequence component. The rotor position is available from the negative component. The module 58 is used to filter out the unwanted positive component of the high frequency current. Thus, the output of the module 58 is the Negative Sequence Stationary Component (NSSC), as defined by the specification and claimed in the present invention, of the high frequency current with the rotor position information. Jansen does not teach or suggest the use of the NSSC of the high frequency current to estimate rotor position and uses a fundamentally different Heterodyning process.

The Examiner has failed to explain how and why the claimed subject matter is rendered unpatentable over the prior art and point out where each of the specific limitations recited in the rejected claims is found in the prior art relied on. If the Examiner relies on personal knowledge that the apparatus of the present invention is obvious, Applicants respectfully request support for

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this assertion in the form of an affidavit that shall be subject to contradiction or explanation by the affidavits of the Applicants and other persons under 37 CFR 1.104(d)(2).

Conclusion

The entire Office Action dated July 15, 2003 has been carefully reviewed, and this response is submitted as being fully responsive thereto. In view of the preceding remarks, Applicants respectfully submit that Claims 1-24 are in condition for allowance and respectfully request such action at the Examiner's earliest convenience. If the Examiner believes that personal contact would be advantageous to the disposition of this case, he is requested to call the undersigned at his earliest convenience.

If for some reason a fee needs to be paid, as well as the fee for a one-month extension of time, please charge Deposit Account No. 07-0960.

Respectfully submitted,



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